What is claimed is:

1. A reduced size GPS microstrip antenna comprising:

(a) a first dielectric substrate;

(b) a second dielectric substrate mounted on an upper surface of said first dielectric substrate;

(c) a ground plane mounted on a bottom surface of said first dielectric substrate;

(d) a shaped layer of etched copper mounted on an upper surface of said second dielectric substrate;

(e) first and second rectangular shaped quarter-wavelength microstrip antennas mounted on said upper surface of said second dielectric substrate, said first and second quarter-wavelength microstrip antennas being spaced apart from and electrically separated from said ground plane by said first and second dielectric substrates, said first and second quarter-wavelength mcirostrip antennas being adapted to receive an RF carrier signal containing GPS (Global Positioning System) data;

(f) said first quarter-wavelength microstrip antenna

being rotated ninety degrees with respect to said second quarter-wavelength microstrip antenna on the upper surface of said dielectric substrate;

(g) a feed network mounted on the upper surface of said first dielectric substrate, said feed network having one end of a first feed line and one end of a second feed line connected thereto, said first feed line having an opposite end thereof connected to said first quarter-wavelength microstrip antenna, said second feed line having an opposite end thereof connected to said second quarter-wavelength microstrip antenna, said first and second feed lines forming a power divider which provides for a phase shift of 90° of an electrical equivalent signal of said RF carrier signal when transmitted through said first and second feed lines; and

(h) said phase shift of said electrical equivalent signal and said first quarter-wavelength microstrip antenna being rotated ninety degrees with respect to said second quarter-wavelength microstrip antenna,

providing for a circular polarization of said GPS microstrip antenna.

2. The reduced size GPS microstrip antenna of claim 1 wherein each of said first and second shaped quarter-wavelength microstrip antennas has an overall length of 0.750 inches and an overall width of 0.650 inches.

3. The reduced size GPS microstrip antenna of claim 1 wherein each of said first and second quarter-wavelength microstrip antennas is connected to said ground plane by a plurality of copper plated through holes passing through said first and second dielectric substrates.

4. The reduced size GPS microstrip antenna of claim 1 wherein each of said first and second quarter-wavelength microstrip antennas includes a copper feed which passes through said second dielectric substrate and connects said first feed line to said first quarter-wavelength microstrip antenna and

said second feed line to said second quarter-wavelength microstrip antenna.

5. The reduced size GPS microstrip antenna of claim 1 wherein said reduced size microstrip antennas has a center frequency of 1.575 GHz and a frequency bandwidth of twenty megahertz.

6. The reduced size GPS microstrip antenna of claim 5 wherein each of said first and second quarter-wavelength microstrip antennas includes a tuning tab for fine tuning the center frequency for said GPS microstrip antenna.

7. The reduced size GPS microstrip antenna of claim 1 wherein each of said first and second dielectric substrates has a thickness of approximately .046 inches.

8. A reduced size GPS microstrip antenna comprising:

(a) a first conical wedge shaped dielectric substrate;

(b) a second conical wedge shaped dielectric substrate

mounted on an upper surface of said first dielectric substrate;

(c) a ground plane mounted on a bottom surface of said first dielectric substrate;

(d) a conical wedge shaped layer of etched copper mounted on an upper surface of said second dielectric substrate;

(e) first and second rectangular shaped quarter-wavelength microstrip antennas mounted on said upper surface of said second dielectric substrate, said first and second quarter-wavelength microstrip antennas being spaced apart from and electrically separated from said ground plane by said first and second dielectric substrates, said first and second quarter-wavelength mcirostrip antennas being adapted to receive an RF carrier signal containing GPS (Global Positioning System) data;

(f) said first quarter-wavelength microstrip antenna being rotated ninety degrees with respect to said second quarter-wavelength microstrip antenna on the upper surface of said dielectric substrate;

(g) a feed network mounted on the upper surface of said first dielectric substrate, said feed network having one end of a first feed line and one end of a second feed line connected thereto, said first feed line having an opposite end thereof connected to said first quarter-wavelength microstrip antenna, said second feed line having an opposite end thereof connected to said second quarter-wavelength microstrip antenna, said first and second feed lines forming a power divider which provides for a phase shift of 90° of an electrical equivalent signal of said RF carrier signal when transmitted through said first and second feed lines;

(h) said phase shift of said electrical equivalent signal and said first quarter-wavelength microstrip antenna being rotated ninety degrees with respect to said second quarter-wavelength microstrip antenna, providing for a circular polarization of said GPS microstrip antenna;

(i) each of said first and second quarter-wavelength

microstrip antennas including a tuning tab for fine tuning a center frequency for said GPS microstrip antenna, said center frequency for said GPS microstrip antenna being approximately 1.575 GHz; and

(j) a first three-sided gap position around three sides of said first rectangular shaped quarter-wavelength microstrip antenna and a second three-sided gap position around three sides of said second rectangular shaped quarter-wavelength microstrip antenna, wherein an electromagnetic radiation pattern for said GPS microstrip antenna emanates from said first three-sided gap and said second three-sided gap.

9. The reduced size GPS microstrip antenna of claim 8 wherein said first three-sided gap and said second three-sided gap each have a width of 0.050 inches exposing about 0.050 inches of the upper surface of said second dielectric substrate in alignment with said first three-sided gap and said second three-sided gap.

10. The reduced size GPS microstrip antenna of claim 8 wherein each of said first and second shaped quarter-wavelength microstrip antennas has an overall length of 0.750 inches and an overall width of 0.650 inches.

11. The reduced size GPS microstrip antenna of claim 8 wherein each of said first and second quarter-wavelength microstrip antennas is connected to said ground plane by a plurality of copper plated through holes passing through said first and second dielectric substrates.

12. The reduced size GPS microstrip antenna of claim 11 wherein said plurality of copper plated through holes comprises eighteen copper plated through holes.

13. The reduced size GPS microstrip antenna of claim 8 wherein each of said first and second quarter-wavelength microstrip antennas includes a copper feed which passes through said second dielectric substrate and connects said first feed line to said first quarter-wavelength microstrip antenna and

said second feed line to said second quarter-wavelength microstrip antenna.

14. The reduced size GPS microstrip antenna of claim 8 wherein each of said first and second dielectric substrates has a thickness of approximately .046 inches.

15. A reduced size GPS microstrip antenna comprising:

(a) a first conical wedge shaped dielectric substrate;

(b) a second conical wedge shaped dielectric substrate mounted on an upper surface of said first dielectric substrate;

(c) a ground plane mounted on a bottom surface of said first dielectric substrate;

(d) a conical wedge shaped layer of etched copper mounted on an upper surface of said second dielectric substrate;

(e) first and second rectangular shaped quarter-wavelength microstrip antennas mounted on said upper surface of said second dielectric substrate, said

first and second quarter-wavelength microstrip antennas being spaced apart from and electrically separated from said ground plane by said first and second dielectric substrates, said first and second quarter-wavelength mcirostrip antennas being adapted to receive an RF carrier signal containing GPS (Global Positioning System) data, each of said first and second quarter-wavelength microstrip antennas being connected to said ground plane by a plurality of copper plated through holes passing through said first and second dielectric substrates;

(f) said first quarter-wavelength microstrip antenna being rotated ninety degrees with respect to said second quarter-wavelength microstrip antenna on the upper surface of said dielectric substrate;

(g) a feed network mounted on the upper surface of said first dielectric substrate, said feed network having one end of a first feed line and one end of a second feed line connected thereto, said first feed line having an opposite end thereof connected to said first quarter-wavelength microstrip antenna, said

second feed line having an opposite end thereof connected to said second quarter-wavelength microstrip antenna, said first and second feed lines forming a power divider which provides for a phase shift of 90° of an electrical equivalent signal of said RF carrier signal when transmitted through said first and second feed lines;

(h) said phase shift of said electrical equivalent signal and said first quarter-wavelength microstrip antenna being rotated ninety degrees with respect to said second quarter-wavelength microstrip antenna, providing for a circular polarization of said GPS microstrip antenna;

(i) each of said first and second quarter-wavelength microstrip antennas including a tuning tab for fine tuning a center frequency for said GPS microstrip antenna, said center frequency for said GPS microstrip antenna being approximately 1.575 GHz;

(j) each of said first and second quarter-wavelength microstrip antennas including a copper feed which passes through said second dielectric substrate and

connects said first feed line to said first quarter-wavelength microstrip antenna and said second feed line to said second quarter-wavelength microstrip antenna;

(k) a first three-sided gap position around three sides of said first rectangular shaped quarter-wavelength microstrip antenna and a second three-sided gap position around three sides of said second rectangular shaped quarter-wavelength microstrip antenna, wherein an electromagnetic radiation pattern for said GPS microstrip antenna emanates from said first three-sided gap and said second three-sided gap; and

(l) said GPS microstrip antenna having a frequency bandwidth of twenty megahertz.

16. The reduced size GPS microstrip antenna of claim 15 wherein said first three-sided gap and said second three-sided gap each have a width of 0.050 inches exposing about 0.050 inches of the upper surface of said second dielectric substrate

in alignment with said first three-sided gap and said second three-sided gap.

17. The reduced size GPS microstrip antenna of claim 15 wherein each of said first and second shaped quarter-wavelength microstrip antennas has an overall length of 0.750 inches and an overall width of 0.650 inches.

18. The reduced size GPS microstrip antenna of claim 15 wherein said plurality of copper plated through holes comprises eighteen copper plated through holes.

19. The reduced size GPS microstrip antenna of claim 15 wherein each of said first and second dielectric substrates has a thickness of approximately .046 inches.

20. The reduced size GPS microstrip antenna of claim 15 wherein said copper feed for each of said first and second quarter wavelength microstrip antennas corresponds to a 100 ohm input impedance.